

## КЕРІВНИЦТВО ІННОВАЦІЙНОЮ ДІЯЛЬНІСТЮ НА МАШИНОБУДІВНИХ ПІДПРИЄМСТВАХ ЗА УМОВ МАСОВОЇ ІНДИВІДУАЛІЗАЦІЇ ПОПИТУ

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Розглянуто приклади реалізації масової індивідуалізації попиту на зарубіжних та вітчизняних підприємствах, зокрема на машинобудівних, та їхню систему керівництва. На основі проведеного аналізу запропоновано схему керівництва інноваційною діяльністю за умов масової індивідуалізації, на якій зображено взаємозв'язок між керуючою й керованою системою та результат від інноваційної діяльності керівника з підлеглими за умов використання нової стратегії. Для керуючої системи виокремлено низку вимог притаманних керівнику інноваційної діяльності. Саме вміння застосування керівником певних навичок, знань, цінностей, здібностей, мислення та якостей, сприятимуть впровадженню на підприємстві нової стратегії масової індивідуалізації попиту. Для керованої системи реалізація масової індивідуалізації попиту здійснюється через три етапи: виявлення потреб споживачів, складання замовлення і узгодження умов договору; виробництво продукції масової індивідуалізації; доставка продукції до замовника та сервісне обслуговування. Прийняття управлінських рішень, відповідальність та підзвітність покладається на команду, а не на окремих осіб. Результатом такої командної роботи є співвідношення між задоволенням індивідуальних потреб споживачів та максимізацію прибутків підприємства на основі залучення нових сегментів ринку.

Проведене дослідження дає змогу поглиблено вивчити та зрозуміти сутність та схему керівництва інноваційною діяльністю за умов масової індивідуалізації попиту, що, своєю чергою, приведе до задоволення індивідуальних потреб споживачів через його персоніфікацію та ідентифікацію, мінімізації та ліквідації витрат, пов'язаних із зберіганням запасів, зацікавленості усіх суб'єктів логістичного ланцюга в успіху індивідуалізованих товарів чи послуг, впровадження у виробничий процес ІТ-технологій, залучення та організації досвідчених фахівців з розумінням до самоорганізації, збалансованого розподілу ресурсів в інноваційній діяльності підприємства. Проведене дослідження сприятиме збільшенню ефективності інновацій на машинобудівному підприємстві.

**Ключові слова:** інновація, керівництво, керівництво інноваційною діяльністю, масова індивідуалізація попиту, вимоги до керівника інноваційної діяльності, попит.

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## MANAGEMENT OF INNOVATION ACTIVITIES AT ENGINEERING ENTERPRISES UNDER CONDITION OF MASS INDIVIDUALIZATION OF DEMAND

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The article reviews examples of realization of a mass individualization of demand at the foreign and domestic enterprises, in particular on machine-building, and their system of the management are reviewed. The carried-out analysis offers the scheme of management by innovative activity under conditions of mass individualization on which the interrelation between the managing director and operated system and result from innovative activity of the

director with subordinates is represented under conditions of use of new strategy. For operating system a number of requirements inherent in the manager of innovative activity is allocated. The ability of application by the manager of certain habits, knowledge, values, abilities, thinking and qualities will render assistance to introduction at the enterprise of the new strategy of mass individualization of demand. For managed system the realization of mass individualization of demand is enabled through three stages: identification of needs of consumers, drawing up order and coordination of terms of the contract; production of mass individualization; production delivery to the customer and service. The adoption of administrative decisions, responsibility and the accountability is relied on team, instead of the individual. Ratios between satisfaction of individual needs of consumers and maximizing profits of the enterprise on the basis of attraction of new segments of the market are result of such team work.

The conducted research gives the chance to learn and understand profoundly the essence and the scheme of the management of innovative activity under conditions of mass individualization of demand which in turn will lead to satisfaction of individual needs of consumers through its personification and identification, minimize or eliminate costs associated with the storage of supplies, all subjects of interest in the success of the logistics chain personalized goods or services, the introduction of information technologies in the production process, involvement and organization of experienced professionals with an understanding of self-organization, a balanced distribution of resources in the innovation of the company. This study will increase the efficiency of innovation in the manufacture of machinery.

**Key words:** innovation, management, management of innovation activity, mass individualization of demand, requirements to the manager of innovation activity, demand.

**Formulation of the problem.** In terms of increasing of innovation activity the successful work of the company under the conditions of mass individualization of demand is the most effective management of human resources in innovation management, since almost all enterprises of machine-building industry in Ukraine were established during the Soviet era, and these enterprises have authoritarian (directive) style of management, so the leader becomes the object that needs to be analyzed in detail because, in order to introduce new production strategy the manager must possess specific requirements and the number of tools needed to implement the company's new strategy of mass individualization of demand.

**Analysis of recent research and publications.** The issues of management is the subject of research by many foreign and Ukrainian scientists. Among these should be mentioned, such as: I. Adizes [1], M. Armstrong, M. Albert, R. Blake, M. Woodcock, R. Daft [2], P. Drucker, I. Ivanov, A. Kazantsev, A. Kuzmin, R. Likert, M. Meskon, T. Mitchell, D. Mouton, V. Nyustrom, B. Parygin, D. Francis, F. Hedouri and others. The research strategy of mass individualization were studied by such scientists and practitioners as: S. Davis, J. Pine II [3], T. Bleker, G. Friedrich, K. Moser, J. Gardner, C. and A. Chandra Cam Ranh [4], F. Piller and M. Tszenh, F. Salvador, C. and L. Van Chanbao, A. Michel and many other foreign scholars. The problem of mass individualization of demand is also studied in Ukraine, including such scholars as: T. Omelyanenko [5], N. Chuhray [6], L. and E. Hlinenko Krykavskyy. However, these works are solitary in nature, there is no systematic and require further study. In the works of scholars so far not enough attention was paid to research issues such as management of innovative activity under conditions of mass individualization of demand. Since the phenomenon of leadership plays an important role in the production and the economy, and mass individualization of demand is a step into the future, this led to the formulation of the problem, its research, and in the future and the possible implementation of the machine-building enterprises of Ukraine.

**Entire article.** The study of this problem makes the formulation of the following purposes:

– analysis of the essence of the concept of “leadership”, “mass individualization of demand”, “employment manager for a mass individualization demand”;

- development of innovative activity management scheme for a mass individualization;
- definition and implementation of the results of the implementation by the manager, mass individualization of demand at engineering enterprises.

**The main material of research.** An important element of any business is its management system, in fact it defines efficiency of production. Feature of a modern market economy is the growth of product lines and competition. This requires targeting leaders of engineering companies on the individual needs of consumers and the development of new strategies for the development of production, which would take into account this feature. As part of this new strategy stands, mass individualization of demand, which combines two requirements to business – the performance and speed of mass production to the individual needs of a particular customer and its features.

The most striking examples of mass individualization can be found in overseas markets, especially in the U.S. and Germany. On the Web site you can order a Dell computer in any convenient configuration for a standard price [7]. The range of the German company MyMuesli, which produces muesli is more than 75 variety of ingredients (cereals, fruits, nuts, seeds etc.) user mixes his own taste, thus creating a major product for the price [8]. Also, this strategy can be traced in part to machine-building enterprises of the world, such as, BMW, Ford Motor, GM in the U.S. and Toyota in Japan. Unfortunately, Ukraine 's new strategy of mass individualization almost not affected, but we can and we find several examples of mass personalization. In pizzerias, you can choose your own custom created from different modules, as practiced in optics, this strategy is made of diagnosis is chosen frame that suits the customer and set the appropriate lens. Ordering is done at a certain time and at a standard price, as this strategy is well evident in the manufacturing furniture industry and production of plastic windows that allows you to vary the configuration of the conventional rectangular ones to arched, triangular, trapezoidal, round windows. Also different functionality of swing-out, bottom-hinged, top-hinged and center-hinged easiness with a different range of colors, regardless of size, shape and number of orders ordered by the consumer. Under this strategy of mass individualization of demand such Ukrainian companies as LLC “Thermoplastic plus” [9] LLC “Cantal”, LLC “VTK” and many others already work.

Mass individualization of demand is a configuration and customization of products and services for individual customers at a price of mass production.

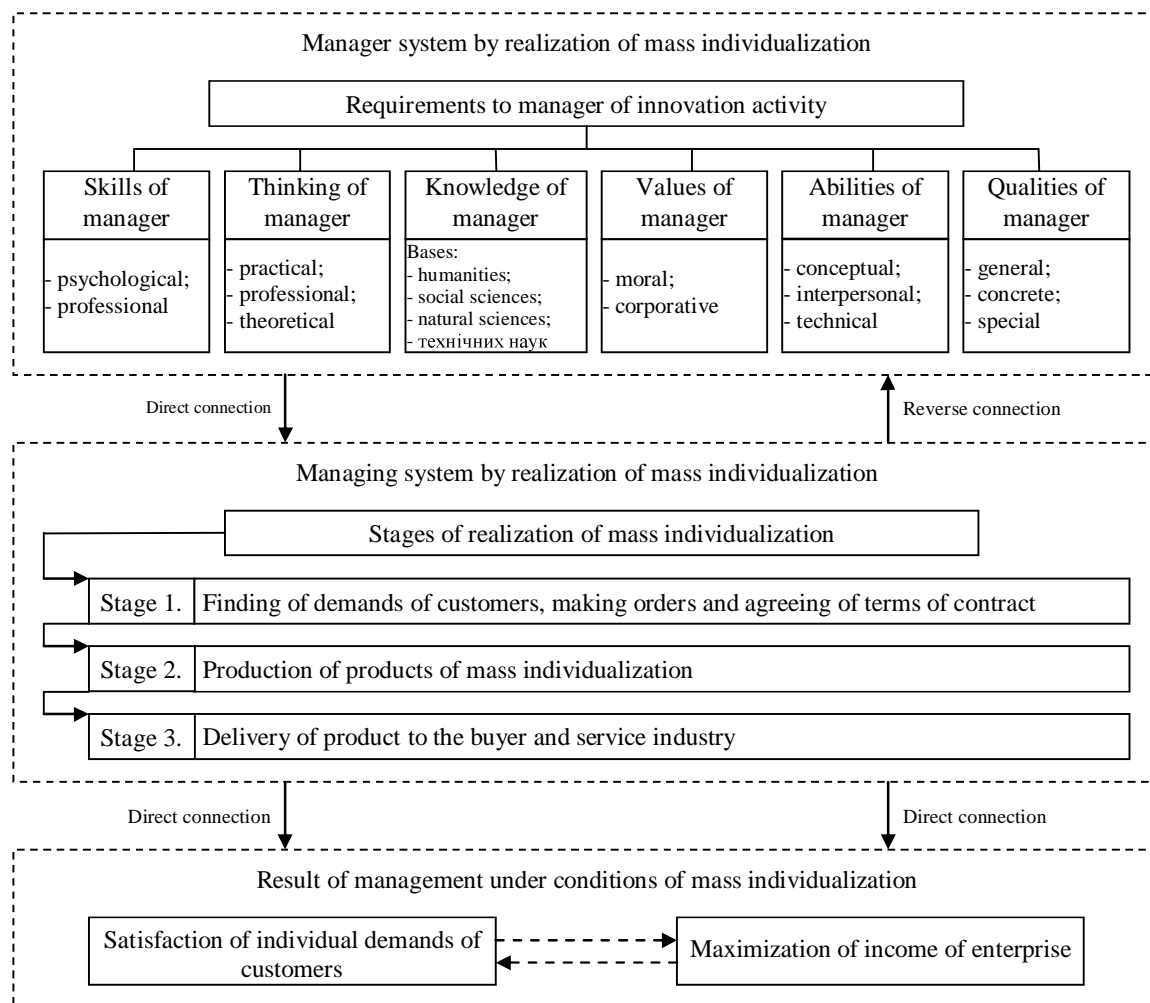
Heads of productive enterprises Apple, BMW, Canon, Chevron, IBM, Microsoft, Ford Motor, Rolls Royce, etc. that make today the biggest impact on the world market, almost unanimously argue that employees, corporate culture and personal characteristics of the manager are the most important factors innovation. In these companies, the new generation of command decisions, all team members, and that is managers and subordinates, are accountable to each other. Not individuals, but entire team take responsibility, authority and accountability for the implementation of innovative processes that go beyond the traditional functional organization.

Guide is the relationship between the leader and his subordinates, because of the effect on each other for a common initiation of change and achievement of future results, which would reflect their common goals. According to the classical law of planning, the manager must 60 % – its time to devote to perform the tasks, 20 % – to perform unplanned tasks and 20 % – in innovation [10].

Innovative leadership – the activity that is performed by an innovative type of leader, leadership style and innovative use of new forms of government based on the principles of influence through participation and cooperation to a combination of both power and authority of government authority in order to achieve social, economic, scientific and technological impact.

Specificity of innovative activity in terms of mass individualization leads to the special nature of work in this area of the head. Work Experience manager for a mass individualization – is the ability to use skills, knowledge, values, skills, thinking of leadership to meet the individual needs of users and maximize profits.

On the basis of studies on leadership and strategy of mass individualization propose to consider the scheme of management of innovative activity under conditions of mass individualization of demand (Fig).



*The scheme of management of innovative activity under conditions of mass individualization of demand*

The picture shows a diagram depicting the relationship between the management and the managed system and the result of the innovation of the head with the underlying conditions for mass individualization of demand. To implement the company's new strategy manager must correspond to specific requirements:

- skills: psychological (self-control and leadership), professional (rhetoric, communication, listening, reasoning and persuasion, delegation, management, and analysis of accurate information and analysis of innovative activities);

- thinking: practical (formed to solve practical problems and issues of strategy of mass individualization of demand: rational, analytical), theoretical (emerging theoretical system of knowledge that is used to implement a new strategy in practice: reproductive, creative), professional (comprehensive understanding of the problems of innovation activities using systematic, flexible, non-standard, practical understanding of innovation and complexity of problems and the ability of the strategy to address them: strategic, creative);

- general knowledge: humanities (the basis of literature, linguistics, music, philosophy, religion and art), social sciences (fundamentals of sociology, psychology, law, political science, history and economics), science (the basis of mathematics, chemistry, physics, biology and medicine), engineering sciences (fundamentals of engineering science, electrical engineering, heat engineering, hydraulic engineering, radio engineering, construction and mining to develop the technology and determine how best to use it);

– values: moral (the manager is honest and requires absolute honesty and directness of their employees, honest and sincere relationship build full trust), corporate (the manager directs departments and staff on strategic goals raising initiative of workers employed in the field of innovation, assures commitment to providing general case, supports the desire for creativity, facilitates communication);

– ability: conceptual (expressed in ordering, achieving unity of the innovation process, organization and direction of the new strategy, achieving results of implementation of mass individualization of demand, creation of the value organization), interpersonal (expressed in the work done, new strategies, through communication, creative acquirement of knowledge, skills and abilities to work reasonably wish to organize the process of mass individualization of demand), technical (expressed in the production process from the standpoint of rational appropriateness of each new thought or idea that is part of the innovation process);

– quality: main (personal) – determination, risk-taking, creativity, ingenuity, confidence, persistence, openness, precision, rigor, hard work, self-criticism, excellent health, sanguineous temperament, average age; specific (business) – education, expertise, innovative thinking, analysis and professional erudition, creativity, sense of intuition, science fantasy, special (managing) – organizing people, collective problem solving, minimum delegation of authority, scheduling, time [11].

During the implementation of the company strategy of mass individualization of demand the managing system undergoes a series of stages, which we will examine:

Step 1. Identifying the needs of consumers, preparation of orders and approving the terms of the contract. Various customers have different needs. This step identifies the tasks that must be performed with the consumer or by the consumer. Therefore, to determine consumer needs the order must be taken in the way of the questionnaire where all alternative modular systems are registered, or through the use of specialized software, among which the customer will be able to quickly and clearly lay out what he needs from the product – this will quickly understand what the consumer wants and segment the market. If the proposed price and terms of the order meet the needs of the consumer, the payment of the product, then the directive dates and project costs are included in the production process.

Step 2. Production of mass personalization. To implement mass individualization in the manufacturing process you must have modernized equipment, professional staff who are able to apply the concept of “Economic production”, “Kanban”, “Kaizen”.

Step 3. Delivery of products to the customer and service. Delivery of products to the customer is prescribed in the contract, for their implementation you should use the concept of “just in time” (just-in-time, JIT), also known as the concept of “0 supply”.

The result of this teamwork is the ratio between the unique needs of customers and maximize profits on the basis of bringing in new market segments.

Thus, the introduction and implementation of the head mass individualization of demand for the manufacture of machinery will lead to:

- the personification of the mass market;
- identify and meet the individual needs of the consumer;
- narrow segmentations of market;
- minimize or eliminate costs associated with the storage of supplies;
- all subjects of interest in the success of the logistics chain personalized goods or services;
- the introduction of information technologies in the production process;
- involvement and organization of experienced professionals with an understanding of self-organization;
- a balanced distribution of resources in the innovation of the company to achieve production goals in general.

**Conclusions and recommendations for further research.** Sales of products under the conditions of mass individualization of demand is seen as innovative activity manager. Perfect and effective to meet the needs of individual customers requires sophisticated and efficient management of innovative activity under conditions of mass personalization. In the innovative activity no division into a leader who gives orders and subordinate, which performs these orders, while there is a team that consists of a manager and subordinates in order to fulfill the goals of the company. The purpose of the team that implements mass individualization, is to meet the individual needs of consumers and profit maximization on the basis of acquisition segment of consumers. Management decisions, responsibility and accountability rests with the team and not on individuals. Control efforts are concentrated on the possibility of introducing mass individualization in the production process, based on the nature of the components of the head, and the implementation and process improvement relies equally on both the control system and the controlled based on feedback.

**Prospects for further research.** The study does not fully cover the problem because management strategy using an individualization of mass demand for Ukrainian engineering enterprises was not investigated because this subject needs further study, and further proceedings at Ukrainian enterprises.

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